

# Intelligence Support to Contemporary Information Operations

By Dr. David Sloggett

**Editorial Abstract:** *In an on-going series of articles, the author explores ways in which the development of intelligence, collected from many sources, can assist in the development of coherent information operations from the strategic to the tactical levels.*

This is the second part of the series, where the author reviews the nature and characteristics of intelligence material in an historical context, establishing a baseline for development of new approaches. The author suggests intelligence analysis in contemporary theaters requires the development of new collaborative methods based upon what he refers to as the *Jigsaw Puzzle Paradigm*. Coupled with approaches that draw on a much wider range of analytical skills, such as those involving societal analysis, the methods provide the granularity of situational awareness required to underpin effective IO across the military task spectrum.

## Introduction

This article sets out to explore the ways in which intelligence material can be derived and used to support contemporary military operations (across the spectrum of humanitarian relief operations to high intensity warfare), such as those based upon adopting the *Comprehensive Approach*, with their associated need for Information Operations. On-going operations in a number of theaters: Kosovo, Iraq and Afghanistan form the backdrop to this exploration.

This part of the series establishes an historical perspective of where intelligence has played an important role in the planning of large-scale military operations, and uses these to create the background from which modern-day intelligence work has to be trained and conducted. The main reason for these insights is to develop a view of the baseline of intelligence operations, and their associated analysis paradigms, in the middle and latter-part of the 20th century.



*Coalition officer opening the door for intelligence support to IO.  
(US Navy)*

One aim is to challenge those paradigms, in terms of how robust and relevant they are today, highlighting the issues we face today when prosecuting the Global War on Terror (GWOT), and counter-insurgency operations in Iraq. See Clark [2004] for an excellent analysis on what he refers to as a target-centric approach to intelligence analysis. Clearly our approaches to intelligence collection and analysis must adapt to the environment, in which we currently carry out a complex spectrum of military activities. Albeit certain well reported maxims developed for example by Sun Zu are still valid today, such as those which refer to knowing your enemy.

With the requirement to avoid unnecessary casualties and negative media coverage, development of highly accurate and granular intelligence of one's adversary's capabilities and intent has never been more important. This can be thought of as part of the process of creating the conditions that enable commanders and their subordinates to share in situational awareness. Clearly,

accurate and timely intelligence is a vital element of creating such an environment in which commanders at all levels can develop an appreciation of the complex situation they are facing—none more so than when faced by a chaotic and rapidly evolving insurgency.

Senior military commanders today need to understand a much wider range of social and cultural interactions than has previously been the case. Specifically, is the need to look at the contemporary picture at its different strategic, operational and tactical levels—noting the need to be able to address time sensitive operational planning. Commanders have to look across what we shall refer to as a *range of information landscapes*—in effect different pictures that interact. These landscapes are based upon assessments of:

- Military situation—the order of battle (ORBAT) of the active combatants in theater, and their capabilities
- The physical ground over which they chose to fight—rural insurgency having specific challenges

• Economic perspectives, such as major pipelines, sources of natural resources etc.

- Political considerations
- Socio-cultural relationships
- Technological capabilities (it has been reported that there are close to 100 ways of detonating an IED in theaters such as Iraq)
- Legal, ethical and moral factors

Intelligence collection and analysis designed to support information operations has to consider each of these landscapes and the interactions—such as the political, socio-cultural and economic dimensions—between them. Pictures that emerge from this analysis are often complex, ambiguous and full of uncertainty. This is the environment in which today's intelligence analysts have to operate. They also have to work against the kind of deadlines imposed by media reporting, where answers to complex questions are often called for in unrealistic timetables, dictated more by programming schedules than the need for reporting accuracy.

Given the complexities of these landscapes and their interactions, they are multi-dimensional and sometimes change rapidly with time. This article highlights the need to evolve training, and widen the cadre of intelligence analysts recruited into military and defense intelligence staffs. This examination proposes creating collaborative working environments that enable people with a range of appropriate skills, including inter alia those with societal analysis skills, who can work in what we shall refer to as Cognitive Maneuver Space. [Editors Note: see *IO Sphere Winter 2007 edition, page 17*] Such an entity allows development of new insights into the ways in which specific demographic groups may be influenced, or are currently motivated. This is a vital part of developing an understanding of what is driving people's behavior in theater.

By way of establishing a more recent analytical baseline, this article provides a view of the ways in which intelligence material was collected and analyzed in the Cold War and the latter part of

the 20th century, and goes on to look at the challenges of creating all source intelligence assessments against the backdrop of an ever-increasingly aware adversary. Through this, we illustrate how people recruited with excellent educational backgrounds provide an increasing understanding of how our intelligence collection operates.

## Historical Perspectives: Intelligence in the Second World War

The use of intelligence in military operations has a checkered history. In some cases, such as the provision of ULTRA intelligence in WWII, the material derived was able to provide insights into strategic matters. For example, the role played by ULTRA in the Battle of the Atlantic has been well documented; Gardner [1999].

In his book, Beesly [1977] reveals the British Admiralty's Operational Intelligence Centre (OIC) role in detecting and classifying U-Boat operations in the North Atlantic. Such actions providing insights that allowed some measure of re-routing of convoys based upon a developed shared situational understanding of the U-Boats, derived from intercepts and analysis of naval Enigma traffic.

Clearly, where OIC had derived intelligence, they provided an important operational service to those trying to safely guide the convoys across the Atlantic. The use of ULTRA intelligence in the hunt for the Battleship *Bismarck* highlighted its vital role in narrowing the search options, once the *Bismarck* lost the cruisers who were tracking her using radar. Here is an example of where ULTRA played an important part in operational level planning, helping the Chief of Naval Operations deploy forces to cover a number of options as to where *Bismarck* was routing.

In contrast, the author's recent research [Sloggett, 2006] investigated the contribution intelligence derived from ULTRA played in the Battle of Britain. Little evidence has been found in this research, from recently

de-classified UK Public Records Office (PRO) material, that shows any tactical benefit concerning the deployment of Royal Air Force squadrons. Results suggest the government gained some strategic insights from derived intercepts concerning the deployments of large formations, but nothing suggested material was available on specific targets.

The last example is [General Bernard] Montgomery's use of ULTRA before the Battle of Alamein in 1942. Hamilton [1981] has shown the relish with which Montgomery readily adapted to receiving ULTRA intelligence. Indeed, he continued to use it all the way through the Normandy campaign, and specifically in the build up to Operation Goodwood—the breakout from Caen in 1944. In contrast to his predecessor General Auchinleck, Montgomery found a great deal of value in recognizing the difficulties Field Marshall Rommel was experiencing in routing supplies across the Mediterranean Sea to North Africa. Indeed one reason for this was the benefits being derived from ULTRA in terms of signposting the convoys, and allowing UK planners to arrange for submarine and air attacks to be carried out—for example, from Malta.

Looking over a range of examples of the use of ULTRA in the Second World War, it is probably fair to conclude that its main contribution to the war effort mounted by the Allied Forces was in providing strategic and operational insights. Its main value was in medium to long term force deployment planning, and the timing of major set-piece engagements. There are fewer examples of where intelligence such as ULTRA, and the excellent work of the so-called "Twenty Committee," had a major tactical impact.

## Middle and Latter 20th Century Perspectives

In more recent times we have had a wide range of successes and failures associated with intelligence collection and analysis. In the late 1950's and the early 1960s we had the famous bomber



UK Signals troops hoist their colors. (Defense Link)

## Intelligence Analysis – Cold War Paradigms

In the course of the Cold War, intelligence elements played out in a high-technology world of ever increasingly capable sensor systems. These were directed at collecting imagery (IMINT), signals intelligence (SIGINT)—such as that derived by ULTRA in the Second World War—and intercepts of communications signals (COMINT). Satellites and ground-based sensor systems provided a ready stream of material showing strategic, operational and tactical insights into the deployments and likely intent of Soviet commanders. A great deal was known about the likely Soviet order of battle, had they invaded Western Europe.

But intelligence analysts in the Cold War were posed with relatively straightforward problems. They were looking for Indications and Warning trends that indicated moves towards potentially aggressive deployments. Intelligence was at the heart of the plan to be ready for a potential Soviet hostile acts, either strategically—through a preemptive missile strike—or through a land invasion of Western Europe. The whole approach to Western defense was based upon getting the early warning material in time to mobilize forces, and hence deter a potential attack.

In contrast, the Soviets would need to move decisively from what appeared to be a peacetime deployment of forces to be in a position to launch a surprise attack. Clearly large scale land exercises always had the potential to be converted into a major assault. Part of the 1972

Helsinki Accords was put in place to reduce the potential for the wrong assessment to be made of such exercises, through the notification of large scale military maneuvers well in advance of their deployments—all part of what became known as Confidence Building Measures (CBM). In deploying large scale formations it was hard to hide the levels of radio traffic, movements of submarines and land-based equipment from the prying eyes of intelligence sources. Analysts could derive indicators relatively easily, and analysis work performed on these problem sets was relatively straightforward.

Contrast the development of shared understanding at the strategic level that arises from detecting a large number of “step-changes” in signals activity—such as a large number of sailings from ports over a short period of time—to the nature of warfare today. Our adversaries are increasingly, through their educational backgrounds, becoming aware of the extent of our intelligence collection capabilities.

Recent experiences in operational theaters show how key members of major terrorist organizations have become increasingly Operations Security (OPSEC) aware. Indeed it is possible to show how the closer you get to the core of such terrorist organizations, the more OPSEC awareness increases. This will impact our ability to detect clear indications of intent. Our all source assessment teams, working on strategic (and possibly operational) assessments, will need to move from ways of working where clear intent appears in the signals traffic, to understanding other indicators. They must develop hypotheses against which collected intelligence can be tested.

Tactical intelligence collection activities and their associated analysis will still draw upon a great deal of locally derived material, using *inter alia* HUMINT and tactical SIGINT sources. Specific enemy activity in a local region can be analyzed and understood from developing these sources, and looking at trends and particular intercepts. These will continue to contribute valuable insights into

and missile gaps—where intelligence agencies over-estimated the scale of Russian heavy bomber and missile production. Intelligence derived through the Cuban Missile Crisis was notable in its ability to show where the Soviets had deployed missiles in Cuba, and their level of operational readiness.

The lack of forewarning in the 1982 invasion of the Falklands, and more recent events Weapons of Mass Destruction [WMD] activities in Iraq are also notable in their impact upon people’s perceptions of the way in which intelligence is collected and analyzed. The term *groupthink* emerges as one of a number of reasons as to why assessments seem to have created the wrong awareness of Iraq’s WMD capability. Bodansky [2004] is insightful in this regard, and his work is an important contribution to the overall international background and context of Operation Iraqi Freedom.

enemy locations and intentions. But a key point is that we must increase the degrees of coupling between the strategically derived material, and that developed and collected at the tactical levels. Through such increased coupling of collected material, we can develop greater analysis and understanding in terms of shared situational awareness, and undertake appropriate information operations.

### Contemporary Intelligence Analysis

It is possible to draw a parallel between analyzing (synthesizing) intelligence from a number of contradictory sources into an integrated and shared awareness, and building a jigsaw puzzle without a front cover. Imagine being given a puzzle in such circumstances. Notably, all the pieces may not be present, and some will not be joined up. Further, fragments of the picture remain from the last person to do it—and when you open the box the pieces will all be jumbled up, and some will be upside down. So where do we start in such circumstances?

Well, one might search the box and pick out the edge pieces, i.e. those that bound the problem space. In proposing this metaphor it is important to remember we are in an environment where intelligence analysts—especially those supporting IO development—are dealing with several different pictures at the same time. Hence, while we use the idea of bounding the problem space for each puzzle, in today's military theaters this is too simplistic an idea. Boundaries between the puzzles will overlap, due to the complex nature of the social relationships that exist in places like Afghanistan and Iraq. The landscapes that we create from the synthesis of the intelligence material will also interact, and offer additional difficulties in creating a clear shared situational awareness.

This can be highlighted through the cases where unintended consequences have occurred as a result of a specific tactical operation. Overlapping boundaries creates the possibilities for confusion and equivocal—where more

than one hypothesis can be developed from the material available. We have to recognize, as Clausewitz suggested, that a major part of intelligence material may well be uncertain or of a dubious nature.

It is also vital that we imagine these pictures evolving over time as Intelligence, Surveillance Target Acquisition and Reconnaissance (ISTAR) assets are tasked to collect material. Unlike jigsaw puzzles whose ultimate picture is clear, in the real world our puzzles will evolve in steps, as vital parts emerge or are more slowly collected, such as through a HUMINT source.



*Intelligence Corps warrant officer uses traditional data sifting techniques.  
(MOD UK)*

Some can be predicted, such as when an ISTAR asset will be reporting back an image, as this will have been tasked for collection—so we may have some idea of the timeline for availability.

In this case, the jigsaw puzzle may well be presented to a commander as incomplete—but with the missing parts annotated to say: “if you are prepared to wait for such-and-such a period of time the intelligence will be available from this ISTAR asset as it has been tasked for collection.” The issue for the commander is the time such intelligence material will become available, how that fits into operations rhythm and

tempo, and how he wishes to conduct the mission.

In some cases parts of the puzzle may be incomplete—as a vital piece is missing—and then the whole area of the puzzle clears when this material is collected. In other situations pieces of the puzzle may not apparently fit with each other—providing contradicting evidence of what is emerging. We can think of this as creating ambiguity in the presentation of the derived intelligence picture.

Through this discussion we've developed four major sources of difficulty for intelligence analysts operating in current theaters, including those analysts working IO. The emerging jigsaw puzzles have four associated characteristics:

- Uncertainty—due to our inability to be confident about what we collect. By nature, the intelligence world has associated uncertainty, hence the scoring systems developed for HUMINT.
- Complexity—where interactions can confuse the evolution of the jigsaw puzzle and create links that require further detailed study.
- Ambiguity—where the intelligence can provide contradictory sources.
- Equivocal—where it is possible to derive several equally valid interpretations of the collected material.

Intelligence analysts and those training them need to develop new approaches or paradigms, in which the collected material is synthesized. Because of the ever-increasing complexity of the puzzles being assembled, it is vital that anyone with insights into the way the pieces are forming can contribute to the synthesis process.

This description and analysis of the problem space calls for the development of more capable collaborative environments. In these participants—drawn into the groups because of their relevant background and experience—can be encouraged, using a range of now routinely available collaborative tools. Working with technologies such as the ideas behind Wikipedia, we can create

the conditions where we have more than one person's eyes on an intelligence assessment; this may become the way forward. New ways of storing and managing collected material from all intelligence sources will also improve its exploitation.

At the heart of this collaborative approach to intelligence analysis and synthesis is the need to develop hypotheses of what the intelligence, with all of its associated uncertainties, is revealing. In situations where adversaries are using OPSEC procedures to reduce the effectiveness of collection activities, such analysis will become increasingly "noisy," hence the need to generate multiple hypotheses. In this way, each postulate can be run in parallel until one emerges as the clear and agreed level of shared understanding between the collaborative teams. Clearly, one of a number of hypotheses maintained as elements of the synthesis process is one based upon what one would observe if an active deception plan was in place. This might help address the issue of groupthink that emerged in Iraq. One hypothesis that would be maintained is that which asks; "could all of this be part of an elaborate deception plan?"

It is also important that collaborative team members should be drawn from a range of sources and agencies, such as academia, where specific insights may be available from persons who have been studying a specific area in detail over a long period of time. The range and complexity of landscapes that we now have to address, especially in responding to the ideas behind the Comprehensive Approach, mean we must effectively tap into specific expertise. Again, we seek to create the conditions in which commanders can make decisions, and have some ability to anticipate some of the outcomes arising from their selected courses of action.

Today it is common to find material used in operational theaters that has only been developed recently, when other information sources collected in the past are now forgotten. In effect, we're highlighting the fact we do not approach information management with a view to creating a long-term corporate memory

of the social structures and interactions among people's with differing religious and cultural backgrounds. It is also becoming increasingly clear that there are links emerging between intelligence collected in one theater and operations being carried out in others. Maintaining an overall appreciation of the situation in such circumstances is vital. An effective approach to information management is a cornerstone to any response to such inter-theater relationships, and to creation of effective response activities.

## Summary

In attempting to create conditions in which derived intelligence is supportive of information operations, it is vital to describe the nature of the difficulties in developing such material. The idea of a creating a jigsaw puzzle—with all its associated uncertainty, complexity, ambiguity and equivocality—is something with which all can relate. This is a helpful metaphor and start point for the next part of this series, which moves on to address the ways in which intelligence information—in highly granular forms and from multiple sources—can be used to plan and conduct information operations across the operational spectrum.

## Bibliography

Beesly, P [1977] *Very Special Intelligence: The story of the Admiralty's Operational Intelligence Centre 1939-1945*, published by Hamish Hamilton.

Bodansky, Y. [2004] *The Secret History of the Iraq War*, published by Harper Collins

Clark, R.M. [2004] *Intelligence Analysis: A target centric Approach*, published by CQ Press.

Gardner, W.J.R [1999] *Decoding History: The Battle of the Atlantic and Ultra*, Published by Macpress.

Hamilton, N. [1981] *Monty: The Battles of Field Marshall Bernard Law Montgomery*, published by Hodder & Stoughton.

Hart, D, Simon, S. [2006] *Thinking Straight and Talking Straight: Problems of Intelligence Analysis, Survival Volume 48, Number 1, Spring 2006*.

Leedom, D.K. [2004] *The Analytic Representation of Sensemaking and Knowledge Management within a Military C2 Organisation*. Report for the USAF Research Laboratory, dated March 2004.

Sloggett, C. [2006] MA Thesis at Oxford University on the Contribution of ULTRA to the Battle of Britain. 